REVISION OF THE GENUS PAROPSIS.

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Part III.

[Commencing the treatment of the species forming Group VI. (as characterised in P.L.S.N.S.W. 1896, p. 638) of the genus.]

To deal successfully with this enormous aggregate it seems necessary to begin by breaking it up into subgroups, which, however, is a very difficult task, as it is scarcely possible to specify structural characters that can be absolutely relied upon singly to characterise sharply defined sets of species. Nevertheless when one has an extensive series of species under observation there is not much difficulty in grouping them, although the difficulty remains of putting down on paper in a satisfactory form the characters that distinguish each aggregate. The following is the best and most easily characterised arrangement I can suggest. First, there is no difficulty in separating a small group of small species (which I think should be placed at the end) having the head very strongly produced in front of the eyes. Next, a study of the elytral sculpture reveals four distinct types of puncturation and two of these seem to be limited to species that resemble each other in various respects that indicate the particular types of sculpture as characteristic of really natural aggregates. The striking feature in the first of these aggregates is that the seriate punctures are very widely spaced in the rows, so that the distance between puncture and puncture is greater (generally much greater) than the diameter of the individual punctures. The species thus punctured are comparatively small ones of more or less hemispheric form, having the prothorax very little uneven on the sides and the suture non-carinate. They are all of testaceous colour, some of them mottled with brown or black. The peculiarity of sculpture in the second of the aggregates mentioned

above consists in the coarseness of the puncturation of both the series and the interstices which is such that the series are distinguishable from the interstices only by the seriate arrangement of their punctures. The other two types of elytral sculpture alluded to above present the one a puncturation fine (and more or less equally so) in both series and interstices, the other a puncturation much coarser in the series than in the interstices. But neither of these types of sculpture seems fitted to be regarded as a basis for primary groups, as each of the primary groups so formed would undoubtedly include species obviously much closer by their general characters to species in the other of those primary groups than to some of the species in their own primary group.

The removal from this present large group of *Paropsis* of the three small subgroups characterised above leaves the vast majority of the species still to be dealt with, and after devoting a very persevering and protracted study to their characters I have had to abandon the hope of discovering any single character on which they can be broken up into smaller aggregates. I have as a last resource adopted the expedient of distributing the specimens before me into groups which seem fairly natural on a consideration of a *combination* of characters, and then endeavouring to specify the features which *in combination* each possesses. The characters which come nearest to being satisfactory for forming primary groups are (*a*) the carination or not of the hinder portion of the suture; (*b*) the presence or absence of a deep well-defined fovea (as distinguished from an ill-defined impression or a marginal flattening) on the prothorax near the lateral margin on either side; (*c*) the nature of the hind angles of the prothorax.

Using these characters, I first separate a subgroup which should stand as the first of this group distinguished in the main by the presence of prothoracic foveæ and the flatness of the hinder part of the suture. Most of the species forming the subgroup possess these characters in combination. Carination of the suture is not absolutely wanting among them, but the species in which it occurs have the prothoracic foveæ strongly defined, and

these well defined foveæ are found in scarcely any species outside this subgroup. The prothoracic foveæ become obsolete in a few species, but in these (with one exception) there is no carination of the suture, and this flatness of the suture I do not find elsewhere except in one of the small subgroups (which I place second in the group) already characterised by another distinctive feature, and a few very small species which obviously belong to another subgroup. The exception mentioned above is *P. variabilis*, Chp., which seems to form a connecting link between this subgroup and those having the suture carinate behind, as it has no defined prothoracic foveæ and the suture feebly carinate behind (more distinctly in some specimens than others), but it clearly belongs to this subgroup rather than the later ones.

The species remaining, after those already characterised have been removed, fall fairly naturally into two subgroups, one of them consisting of species somewhat variable in form and colouring but in general not strongly convex and with a tendency to distinct patterns on the elytra,—the colours being non-metallic and not evanescent after death,—and the texture of the elytra generally firm and not in the least transparent; the other consisting of species usually more convex, with coloured markings (absent in some species) metallic and evanescent after death, and the texture of the elytra more fragile. Between these two subgroups it is not at all easy to specify good workable distinctions, but I find in the species of the former one or more of the following characters which are never present in the latter:—(*a*) the humeral angle of the elytra (when the insect is viewed from the side) not descending much below the hind angle of the prothorax; (*b*) the lateral margin of the elytra (viewed from the side) conspicuously sinuate; (*c*) the hind angles of the prothorax well defined In the other subgroup the humeral angle of the elytra (viewed from the side) is much below the hind angle of the prothorax, so that the point at which the lateral margin of the prothorax seems to meet the front margin of the elytra is not more than (generally not so much as) twice as far from the front angle of the prothorax as from the humeral angle of the elytra;

the lateral margin of the elytra (viewed from the side) is straight or very nearly so; and the hind angles of the prothorax are constantly rounded off.

The following is the best scheme I can suggest of tabulating the characters of these subgroups :—

A. Head at most only moderately produced in front of the eyes.
  B. Elytral seriate and interstitial puncturation not (or at least only on a small part of the surface) both coarse and equally coarse.
    C. The punctures in the elytral series not particularly widely spaced *inter se*.
      D. Prothorax with well defined sublateral foveæ, or elytra with the suture flat throughout (usually both these characters). Size not small (at least long. more than 3 lines)..... I.
      DD. Prothorax without well defined sublateral foveæ; elytral suture more or less carinate in at least the apical quarter.
        E. Humeral angle of the elytra (viewed from the side) not much below level of the hind angle of prothorax, or lateral margin of elytra (viewed from the side) sinuate, or hind angles of prothorax well defined..... ..... IV.
        EE. Humeral angles of elytra (viewed from the side) much below hind angles of prothorax, lateral margin of elytra (viewed from the side) straight or nearly so, hind angles of prothorax rounded off..... ..... V.
    CC. The punctures in the elytral series very widely spaced one from another; elytral suture flat..... ..... II.
  BB. Elytral seriate and interstitial puncturation both coarse and equally coarse .... III.
AA. Head very much produced in front of the eyes; size very small (at most long. $2\frac{1}{4}$ lines)..... .... VI.

SUBGROUP I.

This subgroup is not distinguishable by a single reliable character from all the other subgroups, but nevertheless it appears to me a very natural aggregate, and easily separated from each of the other subgroups individually. With the 2nd it is quite incapable of confusion on account of the seriate punctures of the elytra being placed quite closely in the rows; from the 3rd it is equally distinct on account of the elytral puncturation being either (*a*) entirely fine or (*b*) much finer on the interstices

than in the series; from the 4th and 5th it can be at once separated by most of its species having both (*a*) deep and well defined prothoracic foveæ, (*b*) the suture of the elytra not carinate behind, and all of them—except a single aberrant form (*P. variabilis*, Chp.) which is specially treated below—having one or other of those characters in a very pronounced degree; and from the 6th subgroup it is readily distinguished by the head not being produced in front of the eyes more than is usual among the *Paropses* in general. It is further distinguished from most of the other subgroups by its not containing any very small species and very few not decidedly large.

With regard to the species constituting this subgroup, I find that (including the new species described below) there are probably* 51 names that have been applied to them. Of these, however, it seems quite possible that one (*deflorata*, Chp.) may represent a member of some other subgroup. I have not seen any insect which I can specify as the one described, and the description of the prothorax is ambiguous. Chapuis generally uses of the prothorax of species of this subgroup some such phrase as "fovea profunda ornato," but of this he says "ad latera distincte foveolato," and adds "et punctato rugoso." This suggests to my mind rather the idea of a species of the 5th subgroup in which the vague light impression often present among much rugulosity is a little more pronounced than usual than one of the present aggregate (in which I do not know a species of which the sides of the prothorax deserve to be called "rugosa"). Still Chapuis' "distincte foveolato" seems to forbid omitting mention of the insect here. It is described as whitish-testaceous on the upper surface with the underside and legs mostly black. Long. $4\frac{1}{2}$ lines; occurring at King George's Sound. Unfortunately the structure of the suture is not a character that Chapuis refers to in his descriptions.

The remaining 50 names seem to belong to species that are undoubtedly members of this subgroup, but 3 of them are mere

* I have not included *rufipes*, Fab., which will be discussed under the name "*circumdata*, Newm."

synonyms, so that *P. Clotho*, Stäl = *brunnea*, Marsh.; *Iris*, Chp. = *purpureo-viridis*, Clk.; *polyglypta*, Germ. = *intacta*, Newm. There are also 8 names which seem to appertain to varieties, as follows: *alternata*, Germ., and *picta*, Chp., vars. of *nigerrima*, Germ.; *fallax*, Newm., var. of *Morio*, Fab.; *Froggatti*, Blackb., var. of *intacta*, Newm.; *rubrosignata*, Bohem., var. of *beata*, Newm.; *trivittata*, Chp., and *æqualis*, Chp., vars. of *stygia*, Chp.; *Sidneyensis*, Fauv., var. of *liturata*, Marsh. Regarding one of these determinations (*æqualis*) I am not very confident, as will appear below under the heading "*stygia*."

Thus, after the suppression of the names mentioned above, I find that there are 39 names that seem to represent valid species of this subgroup, 30 of which have been previously described, while 9 are described now for the first time.

Of these 39 there are 3 that I have not seen, viz., *conjugata*, Chp., (from S. Australia); *octolineata*, Gory (from N.S. Wales); and *tenebrosa*, Chp., (from Queensland). Judging from the descriptions I take them to be valid species, but the particulars given do not allow me to place them in the following tabulation, which relates to the 36 species known to me:—

A. Prothoracic foveæ well defined and deep.
  B. Seriate punctures of elytra quite fine, and (at any rate near the suture) but little distinct from the interstitial.
    C. Upper surface of a decided bright metallic green colour..... ..... purpureo-viridis, Clk.
    CC. Upper surface not bright metallic green.
      D. Basal joint of anterior tarsi of ♂ wide and with rounded sides.
        E. Apical ventral segment of ♂ with a strong impression reaching halfway to the base.. ..... morio, Fab.
        EE. Apical ventral segment of ♂ impressed (at most) at extreme apex.
          F. Lateral declivity of elytra not with two elongate transverse foveæ.

G. The upper surface black or variegated with black and red.
H. The interstices of the elytra alternately flat and convex vittipenuis, Bohem.
HH. The interstices of the elytra uniform.
I. The interstices of the elytra convex (at any rate in the ♀)..... mera, Chp.
II. The interstices of the elytra flat.
J. Prothoracic foveæ large, and elongated towards front margin.
K. The elytra with a red margin sharply defined continuously to the apex.
L. The prothoracic foveæ are on the red part of the segment..... beata, Newm.
LL. The prothoracic foveæ are on the black part of the segment..... .. dulcior, Blackb.
KK. The elytra not margined with red.
L. Sides of the prothorax red.
M. Each elytron with three red spots..... sexpustulata, Marsh.
MM. The elytra with numerous red vittæ... ..... semivittata, Blackb.
LL. Prothorax entirely black..... octosignata, Stäl.
JJ. Prothoracic foveæ small and round.... erudita, Newm.

GG. Upper surface entirely red or testaceous, or with only the suture and margins narrowly black.
H. Upper surface opaque; form depressed..... rufobrunnea (Chp.), Blackb.
HH. Upper surface nitid; form decidedly convex.
I. The elytral series of punctures scarcely defined..... brunnea, Marsh.
II. Elytral series of punctures well defined throughout..... elliptica, Chp.
FF. Lateral declivity of elytra with two elongate transverse foveæ (suture strongly carinate behind)..... stygia, Chp.
DD. Basal joint of anterior tarsi in ♂ much narrower, its sides scarcely rounded.
E. Antennæ filiform or nearly so.
F. The whole insect (except some joints of the antennæ) black.... angustipes, Blackb.
FF. The greater part of the insect not black..... ..... liturata, Newm.
EE. Antennæ with joints 5-7 rather strongly compressed..... difficilis, Blackb.
BB. Seriate punctures of elytra strongly defined, many times larger than the interstitial.
C. Basal joint of anterior 4 tarsi in ♂ very large and much narrowed at apex, its sides much rounded.
D. Antennæ normally stout, some of the joints about middle of the antennæ not much longer than wide.
E. Interstices of the elytra flat (or all but flat) in both sexes.
F. Legs black.
G. The prevalent colour of the elytra black..... nigerrima, Germ.
GG. The prevalent colour of the elytra testaceous-brown... mentitrix, Blackb.

FF. Legs testaceous-brown ..... complexa, Chp. (?).
EE. The interstices of the elytra notably convex in the ♀..... gemina, Chp.
DD. Antennæ very slender, their middle joints much longer than wide..... intacta, Newm.
CC. Basal joint of anterior 4 tarsi in male narrower, but little narrowed at apex, its sides little rounded.
D. Legs testaceous.
E. Elytral interstices with sharply defined black blotches..... ..... interlita, Newm.
EE. Elytral interstices not blotched with black.
F. Elytral interstices variegated with contrasted shades of brown and testaceous..... insignita, Newm.
FF. Elytral interstices uniformly testaceous..... trimaculata, Chp.
DD. Legs black..... ... .. nucea, Er.
AA. The prothoracic foveæ faintly defined or even wanting.
B. General colour black, or brassy or bluish black.
C. Basal joint of anterior 4 tarsi of ♂ very large, as wide as and much larger than 3rd joint..... irina, Chp.
CC. Basal joint of anterior 4 tarsi of ♂ moderate, narrower and not much larger than 3rd joint.
D. Seriate punctures of elytra distinct in the apical part..... circumdata, Newm.
DD. Seriate punctures of elytra obsolete in apical part.. .... subcincta, Blackb.
BB. General colour rufo-testaceous or variegated on disc of elytra with red or testaceous and black.
C. Prosternum of normal form.
D. Antennæ very robust, joints 5-10 almost as wide as long..... octomaculata, Marsh.
DD. Antennæ normal (much more slender than in *octomaculata*).
E. Form very short, subcircular, elytra (even of ♀) fully as wide as long.

F. Basal joint of front tarsi of ♂ narrower than 3rd joint, (humeral callus black)..... badia, Blackb.
FF. Basal joint of front tarsi of ♂ fully as wide as 3rd joint, (humeral callus not black) nigrovittata, Chp.
EE. Form less short. Elytra less wide than long.
F. Elytra more or less marked with deep black lines or blotches..... variabilis, Chp. (pars)
FF. Elytra uniformily testaceous-brown.
G. Size somewhat large (long. 5 lines or thereabouts).. .. pachyta, Chp.
GG. Size decidedly small (long. less than 4 lines) incerta, Chp.
CC. Prosternum not sulcate..... gracilipes, Blackb.

P. PURPUREOVIRIDIS, Clk.

I take *P. Iris*, Chp., to be simply a synonym of this species. I have seen only the female.

P. MORIO, Fab. (*P. fallax*, Newm.).

This is a variable species of which I have seen examples from N.S. Wales, Victoria, Tasmania and Kangaroo Island. Usually it is entirely black. Varieties have the antennæ more or less (especially beneath near the base) pitchy or even rufescent; in others the sides and even the disc of the prothorax are brownish-red; in others the elytra are more or less streaked with the same colour, and I have seen a single example (from Tasmania) in which the elytra are entirely brownish-red, except that the 10 pseudo-striæ are narrowly black. Its form is wide, with the sides decidedly rounded, but it is not at all strongly convex. The elytral puncturation is not far removed from being uniform in respect of size, the punctures of the series (which run in scarcely marked scratch-like striæ, and are more or less confused, especially those near the suture) being scarcely or but little larger than those of the interstices; all the punctures are fine but well marked

—manifestly less fine than in *rubrosignata*, Boheni., *sexpustulata*, Marsh., &c. The interstices are almost flat in the male, slightly convex in the female. In the male the basal joint of each of the four anterior tarsi is very much dilated, and the apical ventral segment is deeply and largely declivous behind, the declivous portion reaching forward further in the middle (where it comes not far from the base of the segment), thus appearing like a kind of semicircular excavation (the front outline of which, however, from a certain point of view is subangular in the middle).

I believe *fallax*, Newm., to be a var. of this species. I have examples from Victoria and S. Australia which agree well with the description of *fallax*, and although they seem to be a trifle more depressed and slightly less rounded on the sides than typical *morio*, with the concavity on the apical ventral segment of the male not reaching quite so far forward and having scarcely (or not) any appearance of angularity in front, I cannot look upon them as representing a distinct species.

I have described *P. morio* somewhat fully, because it is desirable to have a few easily recognised species with which others can be compared or contrasted, and this is an easy one to identify, being common and widely distributed, and, though variable in colour, well distinguished by the ventral characters of the male, no other species that I have seen (of those at all nearly resembling it superficially) having anything like the deep well defined concavity on the apical segment that I have described above.

I have not seen the type of *P. morio* (which is probably in the British Museum), and, therefore, there is of course a bare possibility that my identification is wrong, but even in that case the species is equally available for comparison with others, though it should prove to be "*morio*, Blackb., nec Fab." I may say, however, that it agrees well with the original description, with the exception that Fabricius calls the prothorax "lævis," while in the species before me the disc of the prothorax is "subtilissime punctulatus," and the sides are impressed moderately closely with fairly strong punctures (as in almost every *Paropsis* known to

me), and bear a very large and deep subcircular fovea. This species moreover is common in Tasmania (the habitat quoted for *morio*), and though I have collected in many parts of that island, and received considerable collections from other collectors there, I have seen no other Tasmanian *Paropsis* at all near it. Finally I have before me an example of this insect from Dr. Chapuis collection labelled "*morio*, Fab.," so that it is certainly the species to which that learned author attributed the name.

P. VITTIPENNIS, Bohem.

This is a very isolated species, but in my experience rare, and occurring only near Sydney. It is of very large size (long. 6-7 lines), of a brownish-red colour except the elytra (which are black with the alternate interstices reddish, narrower than the rest, and slightly convex); there are also black markings (in some examples very indistinct) on the prothorax. The puncturation of the elytra —both seriate and interstitial—is extremely fine, the seriate as fine as the interstitial, and not running in distinct striæ. The few examples I have seen are all females, and do not show any variation except in the distinctness of the prothoracic markings, and the greater or less deep black of the underside. I have an example named by Dr. Chapuis. *P. octolineata*, Gory, is possibly identical with this species.

P. MERA, Chp.

I have seen two females of this species—one of them named by Dr. Chapuis, the other sent to me from N. Queensland. The species is very close to *beata*, Newm. In the examples before me, however, the spots on the elytra are considerably smaller than in any specimen I have seen of *beata*, and the red lateral margin is less sharply defined (in one of them very much less), but the real distinction (so far as regards the ♀) lies in the elytral interstices of *mera* being distinctly convex, especially in the hinder part.

P. BEATA, Newm. (*rubrosignata*, Bohem.; var. *testaceiceps*, Blackb.)

Var. *rubrosignata*, Bohem.—I have examined a good many specimens of this insect, and cannot find any reason to regard it and *beata*, and also another form described below, as anything but varieties of a species that assumes very widely diverse colour and markings, and even presents some puzzling uncertainties of sculpture. The constant characters are: form moderately convex, the males subcircular, the females broadly ovate—sculpture very fine throughout with seriate and interstitial puncturation of elytra not or scarcely different *inter se*, the elytra non-striate in the males, but usually with obsolete scratch-like striæ in the females; prothorax with a large moderately deep fovea on either side widely remote from the lateral margin; four anterior tarsi of males with the basal joint well dilated; apical ventral segment of male feebly declivous hindward at extreme apex with its hind-margin subtruncate; head more or less red, sides of prothorax and elytra always red or yellowish-red, the latter bearing red or testaceous blotches on the disc, which are normally 3 (never more) on each elytron, but coalesce in almost infinitely various ways (in an extreme var. uniting to form one large blotch occupying the whole disc). In Victorian examples the underside and legs are usually black, the elytral red margin evenly continuous to the apex and the elytral blotches all isolated (this is *beata*, Newm.). In examples from N.S. Wales the elytral red margin usually emits a small vitta running obliquely for a short distance up the hind declivity of the elytron, and the posterior two discal blotches usually coalesce into a fascia reaching neither the suture nor the lateral margin, the underside moreover tending to become pitchy rather than black, and the legs more or less ferruginous (this is *rubrosignata*, Bohem.). The following is the form found in N.W. Australia:—

Var. *testaceiceps*, Blackb. Testacea, prothorace (hujus lateribus exceptis) elytrisque piceis vel rufopiceis, his ut *P. rubrosignatæ* pictis.

In this var. the antennæ, palpi, legs and underside (except the middle of the breast, which is picescent) are entirely testaceous.

P. DULCIOR, sp.nov.

Sat late ovata; minus convexa; sat nitida; nigra, capite inter oculos prothoracis lateribus et elytrorum maculis 3 (1 antica, 2 posticis) subrotundatis margineque laterali rufis vel rufescentibus (variat elytrorum maculis obsoletis); capite subtilius sat crebre punctulato; prothorace quam longiori fere ut $2\frac{1}{2}$ ad 1 latiori, ab apice ultra medium dilatato, latera versus fovea magna sat profunda impresso, subtiliter minus crebre (ad latera fortiter vix crebre) punctulato, lateribus sat arcuatis, angulis posticis rotundatis; scutello lævi; elytris obsolete 10-striatis, striis subtiliter punctulatis interstitiis planis minus crebre (quam striæ vix magis subtiliter) punctulatis, parte marginali quam striæ vix magis fortiter punctulata.

Maris segmento ventrali apicali postice leviter anguste declivi (feminæ plano), tarsorum anticorum 4 articulo basali modico. Long. $4\frac{1}{2}$-$5\frac{1}{2}$, lat. $3\frac{3}{5}$-$4\frac{1}{5}$ lines.

Nearest to *8-signata*, Stäl, in respect of colour and markings, but differing from it superficially by the presence of a red or reddish border to the prothorax and elytra and the absence of a red spot behind the humeral callus of the elytra, and structurally by the less fine puncturation of the elytra. The only variation I notice in numerous specimens is in the distinctness of the elytral markings which in some are scarcely traceable.

W. Australia; taken by Mr. Lea near Geraldton.

P. SEXPUSTULATA, Marsh.

I have in my collection an example of this insect which has been compared with the example in the Macleay Collection that is believed to be Marsham's type. The species is a well known one, and, so far as I have seen, not variable. I do not find much difference between it and *beata*, Newm., apart from the markings of the elytra. They consist of a large roundish blotch near the

base and two smaller ones of somewhat similar form placed transversely near the apex. In *beata* (and all its vars.) the front blotch is more or less triangular (its apex near the lateral margin) and the elytra have a wide red lateral border. As I have seen no examples that can be called intermediate, I think the two may be considered distinct.

P. OCTOSIGNATA, Stäl.

The four spots on the elytra of this species seem to be constant. The colour is subject to a good deal of variety, some examples being (except the elytral spots and the vertex) entirely black, some having the prothorax laterally or wholly brownish, others having the elytra piceous, and others again the lateral and apical parts of the elytra brownish.

P. SEMIVITTATA, sp. nov.

Modice convexa; nitida; nigra vel nigro-picea, capite prothorace (hoc vage piceo-adumbrato) antennis pedibus (his plus minusve infuscatis) et in utroque elytro vittis 10 (his plus minusve interruptis, alternis conspicuis alternis subobsoletis) lividis; capite prothoraceque subtiliter sat crebre punctulatis; hoc quam longiori ut $2\frac{7}{10}$ ad 1 latiori, ab apice ultra medium dilatato, latera versus fovea magna profunda impresso, lateribus sat arcuatis, angulis posticis rotundatis; scutello lævi; elytris nullo modo striatis, vix seriatim subtiliter punctulatis, interstitiis planis confuse punctulatis, puncturis serierum et interstitiorum nullo modo magnitudine disparibus, parte marginali quam striæ haud magis fortiter punctulata.

♂. Subcircularis; ♀ minus late ovata. Long. $5\frac{1}{2}$-6, lat. $4\frac{1}{2}$ lines.

Nearest to *P. vittipennis*, Bohem., but differing from it by its smaller size, different markings, closer and less extremely fine puncturation, and by the flat interstices of its elytra as well as by the 10 rows of punctures on the elytra being scarcely traceable. This latter character is mainly caused by the flatness of the interstices, as the rows of punctures in *vittipennis* are indicated chiefly through their contiguity to convex interstices. It is to be

observed that the distinctions just noted distinguish both sexes of the present species from the *female* of *rittipennis*, but as I do not know the male of that species it is possible that the interstices may not be convex in that sex. Apart from the tarsi I do not find any sexual characters in *semivittata* except the difference of shape.

N. S. Wales.

P. ERUDITA, Newm.

This is a species of dark colour with the head and prothorax red (often more or less marked with blackish), the legs in some examples reddish, and each elytron with an oblique red blotch which with its fellow on the other elytron forms a V. Its puncturation is not unlike that of the species described above as *P. morio*, Fab., but the seriate are a trifle more evidently larger than the interstitial punctures. The size is: long. $4\frac{1}{5}$-$4\frac{4}{5}$ lines. It occurs in N. S. Wales and Victoria.

P. ELLIPTICA, Chp.

This species is entirely testaceous or red-brown except that the antennæ are infuscate towards the apex and that in most examples the under surface and legs are more or less piceous or blackish; in some examples the hind part of the head is infuscate. The puncturation of the elytra is a trifle stronger than in *P. morio* and the seriate punctures are manifestly (though not much) larger than the interstitial, so that the series are quite distinctly marked. The size is: long. 4-$4\frac{4}{5}$ lines. The species is found in W. Australia. I have an example named by Dr. Chapuis.

P. BRUNNEA, Marsh. (*P. Clotho*, Stäl).

I have an example before me which has been carefully compared with the reputed type of Marsham in the Macleay Collection. The species is found in Victoria and N. S. Wales and is fairly common. Its upper surface is extremely finely punctured (in some examples scarcely distinctly except on the head) and very nitid, the seriate punctures scarcely (or even not) distinct from the interstitial. In this insect a character is strongly

developed which is found also more or less conspicuously in a good many of its allies, viz., 10 rows of punctures (of dark colour and much larger than those of the upper surface) on the *under* surface of the elytra which show through (especially if the elytra be wetted with benzine) and to a casual glance make the elytral sculpture appear very different from what it really is. I think the more or less distinctness of this pseudo-sculpture depends much on the action of alcohol. There is also a certain variability (not sexual) in the *genuine* puncturation of the upper surface in specimens taken under circumstances that establish their specific identity—some being though very finely yet quite distinctly punctulate and others almost devoid of puncturation. The colour of the upper surface varies from orange-brown to piceous-red; the prothorax is in some examples a little mottled with darker and lighter shades of brown, and the marginal parts of the elytra tend to be somewhat lighter than the disc with the extreme margin (the actual edging) very narrowly piceous. The antennæ are dark brown with the basal part lighter, the legs usually brown with the femora more or less infuscate. The under surface varies from brown to dark piceous. *P. Clotho*, Stål, is, I have no doubt, a later name for this insect. I have an example named *Clotho* by Dr. Chapuis which is evidently identical with the type of *brunnea* in the Macleay Collection. There is no very noticeable difference in the sexes except the usual tarsal character,—the dilated joints in the male being large and wide (much like the corresponding joints in *P. morio*, Fab.).

P. RUFOBRUNNEA, Chp. (MS.)

Sat late ovata; parum convexa; subopaca; supra brunnea, capite (plus minusve) et scutelli elytrorumque marginibus omnibus (his anguste) et nonnullorum exemplorum seriebus in elytris piceis vel nigricantibus; corpore subtus pedibusque nigris; antennis nigris basin versus subtus testaceis; capite crebre subtilius punctulato; prothorace quam longiori ut $2\frac{1}{3}$ ad 1 latiori, crebre subtiliter vel subobsolete (ad latera sparsim magis fortiter) punctulato, utrinque fovea sat magna

impresso, lateribus sat rotundatis, angulis anticis valde obtusis posticis fere nullis; elytris haud striatis, subtiliter manifeste 10-seriatim punctulatis, interstitiis planis subtilissime (quam series perspicue magis subtiliter) punctulatis, parte marginali quam series haud magis fortiter punctulata.

♂. Tarsorum anteriorum articulo basali sat (quam *P. morionis*, Fab. paullo minus) fortiter dilatato.

Its depressed form and subopaque surface together with the distinctness of the seriate punctures on its elytra (almost sufficient to place it among the species having these punctures "many times larger than the interstitial punctures") readily distinguish this insect from *P. brunnea*. It is extraordinarily like a species (*P. mentitrix*) of the aggregate just alluded to, but differs from it both by the much less strong sculpture of its elytra and the extremely blunt (almost rounded) front angles of its prothorax, as well as by an apparently constant difference in the colouring of its head. Its black legs and black margins of prothorax and elytra also distinguish it from *brunnea*. I have an example from the Chapuis Collection bearing the MS. name *rufobrunnea*.

N. S. Wales; not uncommon.

P. STYGIA, Chp. (var. *trivittata*, Chp.; var. *æqualis*, Chp.)

I have not seen an authentic type of these insects, but I feel no doubt they (at any rate the former two) are forms of a single species which is not uncommon in Victoria. The under surface is black, the upper surface varies from a bright brown colour, with the elytra obscurely clouded with piceous, through a form (*trivittata*) in which the prothorax is blotched with black or blackish and the elytra bear 3 wide black vittæ to a form (*stygia*) in which the whole surface is black, except a spot on the head and sometimes the front margin of the prothorax. Among the species with prothoracic foveæ present and elytral puncturation (both seriate and interstitial) fine and about equally so, this species is easily recognisable by the lateral declivous portion of the elytra bearing two or more impressions (one at least of which is elongate and transverse), the interval between the two principa

impressions appearing gibbous or almost tuberculous. This species is also notable for the unusually (among its near allies) coarse puncturation of the submarginal part of the elytra. I have taken these various forms together under circumstances that allow no doubt of their specific identity. The colour-differences are not sexual. The fovea on either side of the prothorax is very well marked and deep, but smaller than in most of the allied species. The suture is carinate in a short portion of the hinder part of its length. I suspect *æqualis*, Chp., of being a variety of this species, but cannot definitely assert it to be so, as I have not seen a specimen quite agreeing with the description in respect of colour, although I have one differing only in having the femora not quite dark enough in colour. *P. æqualis* is attributed by its author to Gippsland, where *stygia* in all its varieties is a common insect. I have the insect from various localities in Victoria, and a single example from N.S. Wales.

P. ANGUSTIPES, sp.nov.

Ovata; modice lata; nitidissima; nigra, antennis subtus basin versus testaceis, nonnullorum exemplorum capite postice picescenti; capite crebrius subtilius punctulato; prothorace quam longiori ut plus quam $2\frac{1}{2}$ ad 1 latiori, ab apice fere ad basin dilatato, crebre subtilissime (ad latera sparsius fortiter) punctulato, latera versus fovea magna profunda impresso, lateribus sat arcuatis, angulis posticis rotundatis; scutello lævi; elytris haud striatis, minus perspicue 10-seriatim punctulatis, antice ad latera bi-impressis, interstitiis planis subtiliter punctulatis, serierum interstitiorumque puncturis inter se æqualibus.

Mas quam femina manifeste latior, tarsorum anticorum 4 articulo basali præter modum angusto (intermediorum quam latiori circiter duplo longiori). Long. 5-$5\frac{4}{5}$, lat. $3\frac{4}{5}$-$4\frac{1}{5}$ lines.

I have seen about half-a-dozen specimens of this insect which shows little tendency to variation, Its very nitid black surface, with the tarsal dilatation of the male unusually slight and two

very well marked impressions on the anterior part of the lateral declivity of the elytra, renders it easy to identify.

Victoria; Alpine region.

P. LITURATA, Marsh. (var. *sidneyensis*, Fauv.)

This is an excessively variable insect, of which I possess an example that has been compared with the reputed type in the Macleay Collection. Its most distinctive character consists in the slightness of the dilatation in the ♂ of the basal joint of the tarsi, which is only about as wide as the 2nd joint, and has almost straight sides. Apart from this character the species is excessively close to *P. brunnea*, Marsh., but is constantly smaller and almost invariably has the elytra marked with well defined black blotches, which (so far as I have observed) is never the case with *brunnea*. It varies from orange-brown with the base and sides of the elytra clear red (*P. sidneyensis*, Fauv., I have no doubt) to a form having two or three black spots on each elytron, then to a form having a very wide submarginal black vitta much abbreviated at both ends, then to a form (the typical one) having the same vitta suddenly dilated at the front in its inner side so as nearly to reach the suture, and finally to a form in which the entire disc of the elytra is black leaving only the lateral margins and apex red-brown. In many examples the markings of the underside of the elytra show through (as in *brunnea*) and the sculpture of the upper surface (as in *brunnea*) varies a little in distinctness. It is a common species in Victoria and New South Wales.

P. DIFFICILIS, sp.nov.

♂. Convexa; late ovata, fere subcircularis; sat nitida; rufo-testacea, antennis apicem versus piceis; capite subtilius minus crebre punctulato; prothorace quam longiori fere ut $2\frac{3}{4}$ ad 1 latiori, crebre subtiliter (ad latera sat grosse minus crebre) punctulato et in disco puncturis nonnullis vix subtilibus impresso, utrinque fovea profunda sed sat parva instructo, lateribus modice arcuatis, latitudine majori basin versus posita, angulis anticis acutis minus productis posticis rotun-

datis; elytris haud striatis, subtiliter minus distincte 10-seriatim punctulatis, interstitiis planis crebre subtiliter (suturam versus vix, latera versus manifeste, quam series magis subtiliter) punctulatis, parte marginali quam series externa vix magis fortiter punctulata; tarsorum anticorum 4 articulo basali minus dilatato ad latera minus rotundato; antennis robustis, articulis 5-8 quam latioribus haud multo longioribus. Long. $4\frac{2}{5}$, lat. $3\frac{3}{5}$ lines.

♀. Latet.

Its strongly convex and almost subcircular form render this species somewhat isolated among those having well defined prothoracic foveæ. It is perhaps most like pale examples of *P. liturata*, Marsh., which it closely resembles in puncturation and from which it is most easily distinguished by its antennæ suddenly blackish after the 4th joint and having the blackish joints rather strongly compressed.

Queensland; sent to me by Mr. French.

P. NIGERRIMA, Germ. (var. *alternata*, Germ.; var. ? *picta*, Chp.)

I regard *alternata*, Germ., and *picta*, Chp., as varieties of this species, and it is very unfortunate that all three names are founded on the colours of particular varieties and therefore unsuitable as specific names. The species is easily distinguishable among those of dark colour and having strongly defined foveate impressions on the prothorax by its elytral sculpture which consists of 10 sharply defined series of punctures of which the individual punctures are many times larger than the interstitial punctures. The basal joint of the 4 anterior tarsi in the male is extremely dilated being much longer than, and as wide as, the apical joint; but the apical ventral segment presents scarcely any sexual character, being in the male slightly declivous at its extreme apex and flat in the female. The disc of the prothorax is finely and rather closely punctulate usually with more or less intermixture of some less fine punctures, which are usually (though not invariably) most defined in examples from Western Australia. I have before me specimens taken under circumstances that render it certain that

these slight differences in prothoracic sculpture are neither specific nor sexual. The elytral interstices are perfectly flat in the male. In the female they are nearly flat but not quite so absolutely as in the male. The females moreover are a little narrower and less rounded on the sides than the males. The size is: long. $4\frac{1}{2}$-6, lat. $3\frac{1}{3}$-$4\frac{2}{3}$ lines. The variation in colour is almost infinite, but in all the examples I have seen the prevailing colour both above and beneath is black.

The form *nigerrima*, Germ., is widely distributed and is entirely black except a red spot between the eyes and a little testaceous colouring about the base of the antennæ on the underside. Then we find examples in which also the sides of the prothorax and some spots on the alternate interstices of the elytra are red, then examples in which also the lateral margins of the elytra are red (and some in which the lateral margins are red without any spots on the interstices), then examples (*alternata*, Germ.) in which the prothorax is all black but the alternate interstices of the elytra are entirely red, then examples (mentioned by Germar) differing from *alternata* in having the sides of the prothorax red, then examples (*picta*, Chp.) in which the prothorax is blotched with red (or even more red than black) and the elytra bear red spots not confined to the *alternate* interstices and even in extreme varieties coalescing into large transverse blotches. I must admit that in the last mentioned form the style of elytral marking is so different from that of the other varieties as to suggest specific distinctness, but I have vainly examined numerous specimens in search of some constant structural difference. I have not seen the form *picta* except from W. Australia. Specimens named "*nigerrima*" and "*picta*," by Chapuis are before me.

P. MENTITRIX, sp.nov.

♀. Sat late ovata; sat convexa; sat nitida; ut *P. rufobrunnea*, Blackb. colorata, capite crebre subtilius punctulato; prothorace fere ut *P. rufobrunneæ* sed angulis anticis acutis sat productis; elytris 10-striatis, striis concinne (quam *P. geminæ*, Chp. vix minus fortiter) punctulatis, interstitiis planis (vel vix sub-

convexis) vix perspicue (vel subtilissime) punctulatis; cetera ut *P. rufobrunnea.*

♂. Latet.

The remarkable resemblance of this species in colour and markings to *P. rufobrunnea* (Chp.) Blackb., is so close as to make one hesitate to consider it a distinct species, but its structural characters are too well marked to allow of its being called a mere variety. Compared with *rufobrunnea* it is considerably more convex and much more nitid, with the front angles of the prothorax acute, and the puncturation of the elytra quite different. I have seen three specimens of this insect all quite identical and a good many of *rufobrunnea*, but no intermediate forms. If such structural differences are possible within the limits of a species it is difficult to say whether *any Paropsis* is a good species. In placing this species in the tabulation I have assumed that the sexual characters of the male are similar to those of *rufobrunnea,* if the basal joint of the anterior tarsi is narrower the species would stand near *nucea*, Er., from which its notably larger size, elytral interstices scarcely convex in the ♀, and different colouring render it very distinct.

N.S. Wales; from several localities.

P. COMPLEXA, Chp.

This species is too slightly described for confident identification. I have not seen an authentic type, but I take it to be identical with a variable *Paropsis*, of which three examples are before me, from Queensland and Northern N.S. Wales. One of the examples in question agrees fairly well with the description such as it is. The prevailing colour of the upper surface is piceous with a reddish tone (in one example the prothorax, and in two the head being at their darkest part,—the disc,—red without any pitchy shade). The sides of the prothorax, the basal part of the antennæ, the legs (these in some specimens a full brown colour) and on the elytra some vittæ (these very variable) which here and there coalesce into large blotches (3 on each elytron in the specimens before me) are testaceous. In one of the specimens before me

the vittæ (except the marginal one) are wanting, in the second they are all interrupted except the marginal one, the third has four entire vittæ as stated in the description. The underside varies from testaceous to piceous. The species is very close to *nigerrima*, Germ., but in the latter the legs seem to be invariably black, and I have not seen any variety of it coloured as the present species on the upper surface.

P. GEMINA, Chp.

This is another extremely variable species. It is common in the neighbourhood of Adelaide. The dark marks on the prothorax vary from a good-sized blotch on either side of the disc through various forms having the intermediate space more or less filled in with dark clouds and blotches till in the extreme form the whole space between the foveate impressions is black. The elytra in lightly coloured examples have ten black striæ (much like those of *intacta*, but) more or less faint or abbreviated in the neighbourhood of the humeral callus, and vary through forms in which the black of some of the external striæ becomes dilated till it even fills up the whole width of some of the interstices in a more or less blotchy manner, to the extreme form known to me, in which the alternate interstices are entirely black. This extreme form resembles the var. *alternata* of *nigerrima*, from which, however, it is quite distinct by the considerably coarser punctures of its elytral series, as well as by the evident *striæ* in which the elytral series are placed and the very marked convexity of the interstices in the female.

P. INTACTA, Newm. (*polyglypta*, Germ.; *Froggatti*, Blackb.)

In Trans. Roy. Soc. S.A. I expressed the opinion that *P. polyglypta*, Germ., is distinct from *intacta*, Newm., and described under the name *Froggatti* another form (from the Australian Alps) as an allied new species. A careful consideration of the long series of *Paropses* now before me compels me to abandon the opinion that the above names represent distinct species, as I find that the three forms are connected by intermediate varieties.

The type of *Froggatti* certainly seems to differ from all the other examples I have seen by the strong convexity of its elytral interstices, but I am disposed to think it an abnormal specimen as I have since seen examples from the same locality in which the interstices are not convex. *P. intacta* (including *polyglypta* and *Froggatti*) may be known (among the *Paropses* having strong prothoracic foveæ and 10 strongly defined elytral striæ) by its long slender antennæ in combination with very strongly dilated basal joints to the 4 anterior tarsi of the ♂, those of the intermediate and front tarsi being similar to each other. Its upper surface varies from testaceous to a clear brown, the head bears a black spot of variable size between the eyes, the prothorax has a large discal black spot and a smaller one (or two placed longitudinally and connected or not) on either side, the elytra bear 10 well-defined black punctulate striæ, the interstices are unicolorous and usually more distinctly punctulate in the male than the female, the under surface varies from testaceous to black, the legs are testaceous, the antennæ are testaceous near the base and infuscate beyond, and the humeral calli are black. The males are much smaller (long. 5-6 lines) than the females (long. 6½-7½ lines) and are of wide subcircular form while the females are ovate and subelongate. The specimens from South and South-West Australia are usually of the lightest colour (*P. polyglypta*, Germ.), those from high elevations in the Alpine regions the darkest (*P. Froggatti*, Blackb.). I have not seen this species from Queensland, Tasmania, or Western Australia. The species most resembling *intacta* superficially, differ in the male tarsi, and usually in the black lines of their elytral striæ irregular or the elytral interstices blotched with black or various shades of brown. I have not seen any variety of *intacta* in which the black striæ are irregular or the interstices other than unicolorous. The apical ventral segment of the male is very narrowly declivous at its apex.

P. INTERLITA, Newm.

The colour and markings in this species are of the same type as in *P. intacta*, Newm., from which, however, it is readily separated

by the considerably less strongly dilated basal joints of the anterior tarsi in the male as well as by the less regularity of the black lines on the elytra. Regarding it as distinct from *P. trimaculata*, Chp., it is also distinguishable from *P. intacta* by the presence of black blotches on the elytral interstices.

P. INSIGNITA, Newm.

Apart from the markings of its elytra, this species is difficult to separate from *P. interlita*, Newm., but I find that the discal puncturation of its prothorax is certainly finer. Nevertheless there is a tendency in both to variation in the prothoracic punctures which forbids much reliance on this character. In *P. insignita* the 1st, 2nd, 6th, 7th and 10th elytral interstices are almost entirely of a smoky-brown colour, and the other interstices (except the 4th) are similarly coloured about the base or apex. There are no black blotches on the interstices in any example I have seen except an evidently abnormal one which has them on one elytron only. I am disposed to think the species a good one.

P. TRIMACULATA, Chp.

Closely allied to the preceding two, but differing in all the elytral interstices being of uniform colour. Hence, in pattern it resembles *P. intacta*, having no elytral markings except the black striæ, but differs from it in the black lines of the striæ not being uniform (*i.e.*, some of them wider and blacker than others, or in one part than another).

P. NUCEA, Er.

A species easily recognisable (among those of the present subgroup having the seriate punctures of the elytra strongly defined) by its having the under surface and legs black in combination with strong prothoracic foveæ and the basal joints of the anterior tarsi only moderately dilated in the male. It is of a full dark brown colour on the upper surface with the base of the head, some marks on the prothorax and the elytral striæ blackish or piceous. It is not very variable except in a tendency for all the dark markings (which are never very strongly defined) except

that on the head to become obsolete. The extreme variety in a long series before me has the upper surface *testaceous*-brown. The marginal region of the elytra is in many examples of lighter colour than the disc. I have several specimens named by Dr. Chapuis. The elytral interstices are scarcely (♂) or distinctly (♀) convex. The species inhabits Tasmania, Victoria, and N. S. Wales.

P. SUBCINCTA, sp.nov.

Fortiter convexa; nitida; nigra vix æneseens, antennis (his apicem versus infuscatis) labro palpis tarsis (nonnullorum exemplorum tibiis) et prothoracis elytrorum abdominisque lateribus (anguste) rufo-testaceis; capite brevi fortius minus crebre punctulato, sutura clypeali minus distincta; prothorace quam longiori ut $2\frac{3}{4}$ ad 1 latiori, ab apice fere ad basin dilatato, latera versus fovea leviter impressa (vel vix manifesta) instructo, lateribus modice arcuatis, angulis posticis obtusis, disco subtiliter (lateribus fortiter sat crebre) punctulato; scutello lævi; elytris vix striatis, 10-seriatim punctulatis, serierum puncturis minus parvis (quam *P. nigerrimæ*, Germ. paullo majoribus) subsparsim (quam *P. circumdatæ*, Newm. minus crebre) dispositis postice obsoletis, interstitiis planis subtiliter punctulatis, parte marginali quam series minus fortiter punctulata.

♂. Subcircularis; ♀ late ovata. Long. $3\frac{1}{2}$-4, lat. $2\frac{3}{5}$-$3\frac{1}{5}$ lines.

This and the following two species are among the difficulties of classification that seem inevitable in a vast genus such as *Paropsis*, inasmuch as they do not fall quite satisfactorily into any of my "subgroups." The prothoracic impressions are much feebler than in most species of subgroup i., (in some examples they are scarcely traceable) and the elytral suture in *irina* is convex behind, though not narrowly carinate. If they were excluded from the present subgroup they would fall into subgroup iv., but as their general characters seem on the whole to ally them (at any rate *subcincta* and *circumdata*) more with *nigerrima* than any other *Paropsis*, I have placed them here. Their very short wide head with its front little produced beyond

the front margin of the eyes is suggestive of some species (*e.g.*, *subapicalis*, Chp.) of subgroup iv., but I do not think they would be suitably placed among that aggregate. The present species is very distinct from its allies by its very much greater convexity and from *circumdata* by the much more widely spaced (and towards the apex obsolete) punctures of its elytral series. The basal joint of the 4 anterior tarsi in the male is elongate but not strongly dilated. I have seen some examples from N.S. Wales which seem scarcely so convex as the type and have the prothorax and elytra a trifle more widely margined with testaceous and also the front of the former testaceous, but I take them to be mere varieties.

S. W. Australia; Eyre's Peninsula and Eyre's Sand Patch.

P. CIRCUMDATA, Newm.

The description of *P. rufipes*, Fab., fits this species very well, and if it be founded on the same insect as Newman's name *rufipes* is much the older name; but as the habitat of the latter is given "South Sea Islands," it is perhaps safer not to assume identity and to omit *rufipes* from the Australian fauna until further evidence is forthcoming. The species is common in Victoria and Tasmania.

P. IRINA, Chp.

This species is so strongly characterised by its evident violaceous submetallic tone of colour together with its unusual (elongate-oval) form and the large fovea-like impressions of its elytral series that I cannot feel any doubt about my identification of it in spite of my examples having come from Victoria, while Chapuis gives Northern Queensland as its locality. The basal joint of the 4 anterior tarsi in the male is strongly dilated, but I do not find other well marked sexual characters.

P. OCTOMACULATA, Marsh.

This appears to me to be the most variable species in the genus both in respect of size and colouring. Its distinctive characters

among its congeners of the group having 10 rows of punctures on the elytra are: prothoracic foveæ small and lightly or scarcely impressed, antennæ very unusually robust (their joints 5-10 strongly compressed, and scarcely longer than at the apex wide), elytral series of punctures very feeble, prothorax testaceous or red (always in my experience with a black spot of varying size and shape on the middle of the base, and in some examples with other spots), elytra variegated in almost infinite diversity with red and black. The size ranges from: long. $3\frac{1}{2}$ to 5 lines. The smallest examples before me are all from N.W. Australia; the largest from Central Australia. Specimens from a given locality generally resemble each other in colour and markings more than they do specimens from other localities, which perhaps points to a possibility that I am including more than one good species under this name. The prothorax in the type (which seems to occur only near Sydney, and of which I have an example that has been compared with the reputed original type in the Macleay Collection) has its median basal spot trilobed and comparatively large and an additional spot on each side; specimens from all other localities have only the central spot on the prothorax, which is large and usually trilobed in Queensland examples, but much smaller and not trilobed in examples from Central and N.W. Australia. The elytral markings are at their minimum in examples from N.W. Australia, in which they consist of on each elytron two rather small spots placed transversely near the base, three of about the same size as the postbasal ones (sometimes slenderly connected together) placed arcuately a little behind the middle, and one (larger and transverse) near the apex. In the typical form the markings are essentially as just described, but are all larger; the three postmedian spots united into a wide, transverse and sinuous blotch. In Central Australian specimens the spots are essentially as in those from N.W. Australia, and about the same size, but with the postmedian ones more widely connected *inter se*, and with a tendency to unite along the suture with the subapical spot. Queensland examples vary *ad infinitum*. Among those before me, that with the minimum of black mark-

ings on the elytra differs from the Sydney type only in having the postmedian blotch and the subapical connected (a little within the suture); then comes a form in which the two postbasal and the four posterior spots respectively are united into two large blotches; then a form in which the postbasal and postmedian spots are united (each set) into a large blotch extending to both suture and lateral margin and there coalesce with each other and with the subapical blotch (so that the elytra might be described as black with two discal transversely sinuate blotches of red); then a form in which all the black markings except the intermediate one of the postmedian three coalesce widely on the suture and lateral margin (so that the elytra are black with a large discal red spot, in the centre of which is a small black spot); and finally a form in which only a small piece of the interval between the postbasal and postmedian sets of spots remains red. The under surface is almost entirely testaceous in examples with the minimum of dark colouring on the elytra, but the middle of the breast and abdomen is blackish in those having much black colouring on the elytra. The legs vary from testaceous to black (with many intermediate colourings). The antennæ are always black (except near the base).

P. BADIA, sp.nov.

Fortiter convexa; brevis; lata; sat nitida; rufo-testacea, elytris maculis parvis piceis 2 (altera in callo humerali, altera submarginali postmediana) ornatis, elytrorum striis brunneis, antennis apicem versus picescentibus; capite brevi, lato, crebre subtilius punctulato; prothorace quam longiori fere ut $2\frac{1}{3}$ ad 1 latiori, crebre subtilius (ad latera multo magis fortiter) punctulato, utrinque fovea magna leviter impresso, lateribus fortiter arcuatis, latitudine majori basin versus posita, angulis posticis fere nullis; elytris vix striatis, fortius 10-seriatim punctulatis, interstitiis planis crebrius minus subtiliter punctulatis, parte marginali quam series paullo magis fortiter punctulata; antennis sat gracilibus, articulis 3-11 vix compressis quam latioribus multo longioribus.

♂. Fere subhemisphærica, tarsorum anticorum articulo basali sat dilatato (quam *P. intactæ*, Newm. sat minore) intermediorum perspicue magis angusto.

♀. Latissime ovata. Long. 5, lat. 4 lines (vix).

An isolated species which does not look at home in this subgroup, but seems to be nearly allied to *P. variabilis*, Chp. Its prothoracic foveæ, however, though feebly impressed and its flat elytral suture require it to be placed here. I have seen only two examples (both in my own collection), and judging from them I should say that the two very conspicuous blackish spots on each elytron which are very sharply defined and probably constant might be relied upon to render this an easily recognisable species.

S. Australia; Eyre's Peninsula.

P. NIGROVITTATA, Chp.

This species is uniformly testaceous or testaceous-brown, except on the elytra, where the seriate punctures run on narrow black lines. It is of very strongly convex subhemispheric form, and easily recognisable by the characters cited in the tabulation. Its size is 4-4½ lines, and it is found in N.S. Wales, S. Australia, the south-east of Western Australia, and probably Victoria.

P. VARIABILIS, Chp.

An extremely variable species connecting the present subgroup with the 4th through the absence of prothoracic foveæ combined with a distinct tendency to carination in the hinder part of the suture. But it so evidently resembles the preceding and other species (*e.g.*, *intacta*) in general appearance that it cannot rightly be far removed from them. It is entirely testaceous except that the seriate punctures are placed on fine (often interrupted) black lines, and the interstices are in many examples and very variably blotched with black. The blotches on the interstices have a tendency to fall into line transversely so as to present the appearance of fasciæ. The head also is in some examples marked with fuscous or blackish colour. On account of the carination of the suture without the presence of prothoracic foveæ this species

will be mentioned again among those of the 4th subgroup. Its size is: long. 4½-5 lines. It occurs in South and West Australia. I have an example named by Dr. Chapuis.

P. PACHYTA, sp.nov.

A rare species in my experience. I have an example named by Dr. Chapuis. It is entirely of testaceous colour. The prothorax is without foveæ, and is somewhat widely explanate at the sides. The suture is non-carinate. Its size is 4½ lines. It occurs in N.S. Wales.

P. INCERTA, Chp.

Dr. Chapuis says that this is *testacea*, Marsh., (nom. præocc.). I am unable to verify this statement, as *testacea* is absent from the specimens in the Macleay Collection which are believed to be Marsham's types. I have an example named by Dr. Chapuis which is the smallest example I have seen of this subgroup (long. 3½ lines). It is extremely close to *pachyta*, Chp., (only doubtfully distinct in my opinion), but the example before me has the sides of its prothorax less noticeably explanate.

P. GRACILIPES, sp.nov.

Ovata; fortiter convexa, fere subgibba; sat nitida, capite prothoraceque subopacis exceptis; testaceo-brunnea, antennis apicem versus paullo infuscatis; capite crebre subtilius nonnihil aspere punctulato; prothorace quam longiori fere ut 2½ ad 1 latiori, fere ut caput sed paullo magis crebre (ad latera paullo magis fortiter) punctulato, utrinque late leviter planato sed vix manifeste foveolato, lateribus leviter arcuatis, latitudine majori fere ad basin posita, angulis anticis acutis sat prominulis posticis subrotundatis; elytris vix striatis, distincte 10-seriatim punctulatis, interstitiis planis subtiliter punctulatis, parte marginali ut series punctulata; antennis sat gracilibus; prosterno haud canaliculato; tibiis anticis sat gracilibus.

♂. Tarsorum anticorum 4 articulo basali minus fortiter dilatato.

Long. 4, lat. 3 lines.

The comparatively slender and elongate front tibiæ of this species suggest a doubt whether it might not be regarded as generically distinct from *Paropsis*, but I cannot find any other peculiarity on which to found a new genus. It is the only species known to me of this subgroup having the prosternum not sulcate, but that character is found also in several isolated species pertaining to other aggregates in the genus and not otherwise resembling the present one. The apical joint of the maxillary palpi is of the form that seems to characterise *Paropsis* essentially among its near allies.

N. S. Wales; Richmond River; taken by Mr. Lea.

SUBGROUP II.

In this subgroup the punctures in the elytral series are more or less irregularly placed; the interval between puncture and puncture is at least considerably greater than the diameter of a puncture and is for the most part as great as the width of the adjacent interstice. In most of the species the fine interstitial puncturation extends itself to the intervals between puncture and puncture of the series and in some examples seems to be there a trifle less fine than in the interstices. The species are all comparatively small and of more or less subhemispheric shape, of chiefly testaceous colouring and with their elytra mottled or speckled with brown or black. The sexual characters are very slight,—scarcely more than that the males have their usual tarsal character and also are of somewhat wider more subcircular form. From the following tabulation I have been obliged to omit two names that have been given to species doubtless belonging to this subgroup (*pluvialis*, Chp., and *nigrostillata*, Chp.) but concerning which I offer some remarks below.

A. Prothorax with an elongate longitudinal sulcus close to its lateral margins..... tessellata, Clk. (?).

AA. Prothorax devoid of a submarginal sulcus.

B. The elytral series run very conspicuously in pairs nupta, Blackb.
BB. The elytral series not placed in pairs.
C. The highest part of the elytra very elevated and notably in front of the middle of the lateral outline (viewed from the side)..... remota, Germ.
CC. Elytra less convex and with the greatest height not nearly so far forward.
D. Antennæ with joints 5-10 much compressed, and black or nearly so.
E. The scutellum, and 2 spots on the head, black.. ..... stictica, Marsh.
EE. Scutellum testaceous; head without black spots..... inspersa, Newm.
DD. Antennæ filiform or nearly so; testaceous or scarcely infuscate.
E. Head nitid, and not punctured particularly closely ..... madida, Blackb.
EE. Head opaque owing to very close puncturation..... opaciceps, Blackb.

P. TESSELLATA, Clk.

There is an element of doubt about my identification of this species inasmuch as I have not seen an authentic type, and the specimens which I regard as *tessellata* were not taken in Western Australia (the locality cited by Clark) but in South Australia, on Eyre's Peninsula. These specimens, however, agree so well with the description (especially in respect of the elytral markings, which are quite different from those of any other species known to me) that I feel fairly confident in naming them. It is noteworthy, however, that Clark does not mention the submarginal sulcus of the prothorax which seems to be the principal structural distinction of the species among its near allies. Clark, however, does not compare it with any other species of this subgroup, which may account for his not mentioning the sulcus. The insect is about $3\frac{1}{2}$ lines long with filiform testaceous antennæ. The elytra are pale fuscous with about 10 rows of somewhat square testaceous blotches on each of them, each row containing about 10 of the blotches and each blotch having in its centre a piceous puncture.

P. NUPTA, sp.nov.

Breviter ovata; valde convexa; nitida; testacea, antennis (basi excepta) palpis genubus tarsis macula frontali biloba scutello humeris et elytrorum punctis seriatis nigris; capite latissimo perbrevi, crebrius subtilius punctulato; prothorace quam longiori ut fere $2\frac{1}{2}$ ad 1 latiori, crebrius subtiliter (ad latera sat grosse) punctulato, latera versus fere æquali, lateribus leviter arcuatis, latitudine majori fere ad basin posita, angulis posticis fere nullis; elytris haud striatis, geminatim 10-seriatim punctulatis, puncturis in seriebus sparsis, interstitiis planis subtiliter minus crebre punctulatis, parte marginali quam series paullo minus fortiter punctulata; antennis minus elongatis.

♂. Quam, ♀ brevior. Long. $2\frac{3}{4}$-3, lat. $2\frac{1}{3}$ lines.

This species does not seem to be a variable one; it is easily recognisable by the rows (arranged in pairs) of very conspicuous black spots on its elytra,—each black spot containing one of the seriate punctures.

S. Australia; Eyre's Peninsula.

P. REMOTA, Germar.

This species is easily recognised by its peculiar form, which is extremely convex with the elytra (viewed from the side) rising to their greatest height very abruptly from the base,—so that the greatest height is at a point vertically above (looking at the insect from the side) a point considerably in front of the middle of the lateral margin of the elytra. The insect is $3\frac{1}{2}$ lines long and of testaceous colour, less nitid than most in this subgroup and with the black colouring of the seriate punctures on the elytra scarcely extending beyond the punctures themselves (therefore not very conspicuous). The head as in the preceding two species is very wide and short, the front of the clypeus being scarcely farther forward than a line joining the front of the eyes.

P. STICTICA, Marsh.

Of this species I have an example that has been compared with the reputed original type in the Macleay Collection and another (evidently conspecific) so named by Dr. Chapuis. The insect is very close to *P. inspersa*, Newm., but I believe it to be distinct. It is uniformly smaller, with the black base (invisible when the head is not exceptionally extruded) of the head produced forward into two blotches which are visible in all the specimens I have seen and are constantly wanting in *inspersa*, the scutellum black (testaceous in *inspersa*, sometimes with a dark margin), and the black of the seriate punctures on the elytra extending outside the punctures (limited to the punctures in *inspersa*), moreover the seriate punctures in *inspersa* are more regularly spaced than in *stictica* in which they run two or three comparatively close and then a long gap before the next. *P. stictica* is also near *nupta*, Blackb., which resembles it in the characters just mentioned but differs in the elytral series of punctures being strongly geminate. The legs in *inspersa* vary from entirely (except the base of the tibiæ) black to entirely (except the knees and tarsi) testaceous. In all the examples I have seen of *stictica* and *nupta* the legs have the last-described colouring.

P. PLUVIALIS, Chp.

This species evidently belongs to the present subgroup, and "Sydney" is cited as its habitat. If it was really taken near Sydney I suspect it of being a lightly coloured variety of *stictica*, Marsh., as I have collected many *Paropses* near Sydney and have examined large collections made by others in the same locality, but have seen no *Paropsis* distinct from *stictica* presenting the one or two very slight differences that are attributed to *pluvialis*. I find no character in the description inconsistent with its being a variety except that it is called "ovalis" which is certainly a term that strikes me as unsuitable even for the narrowest ♀ of *stictica* that I have before me. The only other features in the description suggesting difference from a typical *stictica* are

"vertice obscuro" which is not a satisfactory description of the black marks on the forehead of *stictica*, and "pedibus ferrugineis," no example that I have seen of *stictica* having the legs entirely ferruginous.

P. NIGROSTILLATA, Chp.

The description of this species mentions no character inconsistent with its being identical with a dark-legged example of *inspersa*, Newm., of which I have no hesitation in considering its name a synonym.

P. MADIDA, sp.nov.

♀. Breviter ovata; fortiter convexa; nitida; testacea, elytrorum puncturis seriatis nigris; capite latissimo, perbrevi, crebrius subtiliter punctulato; prothorace quam longiori ut $2\frac{1}{2}$ ad 1 latiori, crebre subtilissime (ad latera minus subtiliter, nec fortiter) punctulato, latera versus fere æquali, lateribus arcuatis, latitudine majori prope basin posita, angulis posticis nullis; elytris haud striatis, 10-seriatim punctulatis, puncturis in seriebus sparsis, interstitiis planis crebre subtiliter punctulatis, parte marginali ut series vix tam fortiter punctulata; antennis subfiliformibus. Long. $3\frac{1}{2}$, lat. $2\frac{1}{5}$ lines.

The unique type of this species resembles *stictica*, Marsh., in the black colouring of its seriate elytral punctures extending beyond the punctures themselves, though less extended than in that species. It is remarkable in the fine interstitial puncturation being also of dark colour where it is between puncture and puncture of the series, so that there appear on each elytron 10 fine lines consisting of closely placed fine dark specks each of which dilates into a black spot wherever one of the seriate punctures is placed. With the exception of the markings on the elytra the whole insect is testaceous. From *inspersa*, Newm., and *stictica*, Marsh., it differs *inter alia* by its more slender and entirely testaceous antennæ; from *remota*, Germ., by its much more nitid surface and less convexity, with the greatest height of its elytra further from the base, and the blackness of its seriate elytral punctures not confined to the actual puncture, and from its other allies by

the well marked characters specified in the tabulation of the subgroup.

South Australia; near Eucla.

P. OPACICEPS, sp.nov.

Subhemisphærica; modice nitida; testacea, elytrorum puncturis seriatis plus minusve nigricantibus; capite latissimo, brevi, cum prothorace opaco et creberrime subtilius subaspere punctulato; hoc quam longiori ut $2\frac{1}{3}$ ad 1 latiori, ad latera paullo magis fortiter punctulato, latera versus fere æquali, lateribus arcuatis, latitudine majori prope basin posita, angulis posticis nullis; scutello crebre distincte punctulato; elytris haud striatis, 10-seriatim punctulatis, puncturis in seriebus sparsis, interstitiis planis creberrime subtilius punctulatis, parte marginali quam series minus fortiter punctulata; antennis subfiliformibus.

♂. Quam, ♀ paullo brevior, magis circularis. Long. $2\frac{4}{5}$, lat. $2\frac{1}{5}$ lines.

Very distinct from the other species of this subgroup by the close almost subasperate puncturation of its head and prothorax rendering those segments quite opaque. This species varies in colouring more than its immediate allies, in some specimens the black of the elytral seriate punctures being very conspicuous and even extending slightly beyond the actual punctures, and in other specimens being almost absent. In some examples, moreover, the testaceous colour of the head and prothorax has a distinctly rufescent tone.

W. Australia; taken by Mr. E. Meyrick; also from Mr. Lea (Swan R.)

SUBGROUP III.

This, like the preceding, is a subgroup distinguishable from all the others by a single easily observed character, inasmuch as the punctures of the elytral series and of the interstices adjacent to the same are alike in respect of size and (except at any rate on a small space adjacent to the suture) are distinctly not "fine." In

other species on whose elytra there is no difference (or scarcely any) between the seriate and interstitial punctures it is because the seriate punctures are unusually fine,—here it is because the interstitial punctures are unusually coarse. To be quite precise, it may be well to note that in the members of this subgroup having the finest elytral puncturation the punctures of both interstices and series on at least the external half of the surface of the elytra are notably less fine than on the elytra of *P. morio* This subgroup resembles the 1st in having distinct, though not strongly developed, prothoracic foveæ; it resembles the 4th, 5th and 6th in having the elytral suture carinate in at least its hind quarter. There is a species here and there in other aggregates on whose elytral interstices there are some coarse punctures near the apex, or in a few interstices near the outer part of the disc, but none, I think, having (as in the present subgroup) the punctures of each interstice similar to those of the adjacent series throughout. I have found the few species of this subgroup peculiarly hard to tabulate owing to the close alliance of some of the species structurally, and have had to fall back on using the markings of the elytra, but I think the use of these will not lead to error, for although the species are variable in markings I have not found them disposed to vary towards resemblance to another species. Occasional examples in which all the markings are absent are, however, in some cases difficult to determine.

A. Elytral series of punctures very flexuous. (Size large, about 6½ lines)..... cernua, Chp.

AA. Elytral series straight or nearly so. (Size considerably smaller).

B. Elytral seriate and interstitial puncturation very coarse throughout (not or scarcely finer near suture)..... lignea, Er.

BB. Elytral puncturation less coarse (notably finer near suture than elsewhere).

C. Elytral markings (at least of ♂) consist of longitudinal lines of contrasted colours.

D. ♂. Elytra testaceous-brown with the seriate punctures on narrow black lines..... geniculata, Boisd.

DD. ♂. Elytra black with some of the interstices yellow or red ... Io, Blackb.
CC. Elytra not having longitudinal lines of contrasted colours.
D. The principal elytral markings are spots or blotches on the posterior declivity ..... Atalanta, Blackb.
DD. Elytra with (if any markings) only a large subbasal obscure blotch ..... interstitialis, Chp.

P. CERNUA, Chp.

This species is one that I have not seen. It is described as of very large size (long. 6½ lines), with the seriate and interstitial punctures of the elytra large and of equal size, and with the seriate punctures very flexuous in arrangement. It is said to occur near Sydney.

P. LIGNEA, Er. (*ornaticollis*, Chp.).

That this is one of the most variable species in the genus I can affirm confidently, as I have taken some of the extreme forms in company with typical examples under circumstances that allowed no doubt of their specific identity. I think it is easy to identify, nevertheless, inasmuch as its being a member of this present subgroup is unmistakable, and in the subgroup it is the only species having the punctures of the elytral interstices *everywhere* as large as (in fact they are a little larger than) those of the adjacent series, all these punctures *very coarse* (in every part of the elytra they are notably coarser than the seriate punctures of the common *P. intacta*, Newm.), and also all these punctures not (or scarcely) coarser in one part of the elytra than in another (*i.e.*, not becoming notably coarser towards the sides or apex of the elytra, except in some examples close to the margin). The punctures of the interstices are more or less seriate in arrangement. It is of ovate, and not particularly short, form, and of only moderate convexity (especially the males) with the greatest height of the elytra (viewed from the side) decidedly behind the middle of the length of the lower outline (*i.e.*, the lateral margin) of the elytra. The puncturation of the prothorax is more or less uneven and

rugulose becoming gradually coarser from the middle of the disc towards the margins, and its hind angles are quite rounded off. The seriate punctures of the elytra run in distinct, but not strongly impressed, striæ; the interstices are flat; and there is generally an unpunctured more or less interrupted wheal-like space between the lateral stria and the confused marginal punctuation. The antennæ are elongate and somewhat robust, but decidedly filiform, all the joints (except the 2nd) much longer than wide, the 3rd joint considerably longer than the 4th. The basal joint of the 4 anterior tarsi of the male is dilated comparatively feebly (with its sides but little rounded) and the apical ventral segment scarcely differs in the sexes. The size is variable (long. 4-5 lines). The head varies from entirely testaceous to testaceous with the vertex and a longitudinal line (which is bifid in front) black. The prothorax varies from entirely testaceous, through forms in which there are obscure fuscous markings, to one (*ornaticollis*, Chp.) in which there are three large black spots placed transversely across the disc and then to forms in which these spots enlarge and coalesce (typical *lignea*) till in the extreme (that I have seen) the prothorax is black with the lateral and front margins testaceous. The scutellum varies from testaceous to black. The markings of the elytra (when present) have the apparently constant character of consisting of lines or vittæ continuous from close behind the base to the apex (or almost to the apex). The elytra vary from entirely testaceous, through a form in which the humeral calli, the striæ and all the punctures are fuscous, and another in which also all the interstices are fuscous and all the striæ and punctures black (only the lateral margin being testaceous), to one (typical *ornaticollis*) in which the interstices are alternately black and testaceous. The under surface varies from testaceous to black, the legs from testaceous to black (except the knees, tarsi and apex of tibiæ). The antennæ are testaceous, in many examples fuscous or blackish near the apex. In general the darkly coloured specimens are males and the light ones females. The species is common in Tasmania and Victoria. I have taken it, but not commonly, in N.S. Wales.

In Dr. Chapuis' description of *ornaticollis* it is stated that the prothorax is deeply foveolate laterally. I am satisfied that this is a mistake. In the species before me there is a large ill-defined light and inconspicuous impression on either side near the margin of the prothorax (not interrupting the puncturation, which is always at least changed in character by a true fovea such as exists in species of the 1st subgroup), and in the var. *ornaticollis* one of the black spots falling exactly on this impression makes it more conspicuous (and to a casual glance with a deeper appearance) than it is in other vars. But in all other respects the specimens I call *ornaticollis* agree so absolutely with the numerous conspicuous characters of the description that I cannot entertain the least doubt of their identity.

P. GENICULATA, Boisd.

♂. Sat late ovata; sat convexa; nitida; supra testaceo-brunnea, capite medio (longitudinaliter) maculis in prothorace 3 scutello et elytrorum partibus seriatim punctulatis (his minus anguste) nigris vel fusco-nigris, corpore subtus nigro vel fusco-nigro, pedibus (horum genubus infuscatis) antennisque (his apicem versus infuscatis) testaceo-brunneis; capite lato, brevi, confertim subtiliter punctulato; prothorace quam longiori ut fere $2\frac{1}{2}$ ad 1 latiori, crebre subtiliter nullo modo rugulose (ad latera subfortiter nec confluenter) punctulato, latera versus fovea parva sat distincta impresso, lateribus arcuatis, latitudine majori paullo ante basin posita, angulis posticis nullis; elytris haud striatis, 10-seriatim punctulatis, interstitiis planis, puncturis seriatis et interstitialibus (his sparsis) æqualibus (utrisque suturam versus subtilibus, latera versus et in parte marginali gradatim multo magis grossis), sutura in parte quarta postica cariniformi; antennis filiformibus, minus gracilibus. Long. $4\frac{1}{2}$, lat. $3\frac{1}{4}$ lines.

In company with three males, which do not vary *inter se*, I obtained one female *Paropsis* which is probably the female of this species. It is a little more strongly convex than the males

and is entirely testaceous throughout in colour, except a little infuscation of the apical part of the antennæ.

The species is easily distinguished from *P. lignea*, Er., by the puncturation (both seriate and interstitial) of its elytra being quite fine near the suture,—about as fine as in *P. morio*, Fab.,—but becoming gradually coarse towards the lateral margins, where, however, it is still considerably less coarse than in *P. lignea*, and slightly less coarse than the seriate puncturation of *P. intacta*, Newm. The prothorax has better marked prothoracic foveæ than in *P. lignea;* in fact they are better defined than in some species of subgroup i., but there is no fear of confusion with that subgroup on account of the elytral puncturation and the well defined narrow carination of the apical quarter of the suture.

Boisduval's description of *geniculata* agrees with the present species as far as it goes, and seems to have been founded on a specimen taken near Sydney. I therefore claim the name for this insect pending any correction that might result from an examination of the type.

N. S. Wales; Blue Mountains.

P. Io, sp.nov.

Præcedenti (*P. geniculatæ*) valde affinis; differt elytrorum striis leviter impressis et colore.

♂. Flava, capite medio (longitudinaliter) et postice maculis in prothorace 3 elytris (margine et vittis nonnullis flavis exceptis) et antennarum parte apicali nigris.

♀. (Exemplum typicum). Nigra, capite (partibus media et postica nigris exceptis) prothorace (maculis 3 nigris exceptis) elytrorum margine vittisque nonnullis antennarum parte basali et pedum genubus tarsisque rubris. Long. $3\frac{1}{5}$-$4\frac{1}{2}$, lat. 3-$3\frac{1}{2}$ lines.

This species is extremely close to *P. geniculata*, Boisd., in all respects except colour, but as the three males before me of each species are *inter se* identical or nearly so in colour and markings, and the colours and markings of each species are extremely different from those of the other species, I do not see how they can be regarded otherwise than as distinct. The only structural

difference that I can specify is in the sculpture of the elytra, and consists in the seriate punctures being in *geniculata* absolutely mere rows of punctures with the intervals between puncture and puncture in the rows perfectly level with the surface of the interstices, while in *Io* the seriate punctures run in very faint and scratchy (but distinctly traceable) striæ. The yellow vittæ on the elytra of *Io* occupy the front half of the 2nd interstice (in one specimen extending over the abbreviated 1st interstice), the whole of the 4th interstice, and the front $\frac{3}{4}$ of the 6th interstice. The 8th interstice also is slightly streaked with yellow, and the margin is widely yellow. These yellow vittæ are in places slightly wider than the interstices, so that here and there the seriate punctures are on the vittæ, and where that is the case they have not the black line (accompanying the series in *geniculata*) which one would expect to find if this species were merely a variety (with the black colouring increased) of the preceding. I cannot doubt that the female described above is the female of *Io* (although possibly a variety of the female), as it differs from the male in respect of elytral markings in no respect whatever except in the markings being red instead of yellow. The black spots on the prothorax are larger than in any of the males before me, and the dark under surface and legs make this female differ from its male in the contrary way from those of allied species in which the female is usually the more lightly coloured sex.

N.S. Wales; Blue Mountains; taken by Messrs. Masters and Simson.

P. Atalanta, sp nov.

P. geniculatæ (ut supra descripta) valde affinis; differt prothorace nonnihil magis transverso, elytris manifeste striatis, et colore.

♂. Testacea vel brunneo-testacea; capite haud inter oculos, prothorace haud in disci medio, nigro-notato; prothoracis maculis 2 vel 4 parum determinatis, elytrorum maculis 1 subbasali 1 brevi in sutura media 3que subapicalibus transversim positis piceis vel nigricantibus (e maculis, nonnullis in exemplis nonnullis, carentibus), corpore subtus plus minusve

antennis apicem versus et nonnullorum exemplorum femoribus apicem versus et tibiarum basi infuscatis.

♀. In prothorace (exemplis rarissimis exceptis) haud fusconotata. Long. $2\frac{4}{5}$-$3\frac{4}{5}$, lat. $2\frac{1}{5}$-$3\frac{1}{5}$ lines.

This is another species with structural characters very close to those of *P. geniculata* (as characterised above). It is uniformly smaller, always has distinctly traceable elytral striæ, and has a certainly more transverse prothorax. The last of these characters distinguishes it from *P. Io* also, than which species moreover it is smaller, although the largest female of it that I have seen is as large as the smallest male I have seen of *P. Io*.

In colour and markings it differs essentially from both *geniculata* and *Io*, for though it is certainly variable no variety seems to approximate at all to either of those species further than that of all these species there seem to be rare varieties of the female in which the entire insect is testaceous, and these undoubtedly are difficult to distinguish. In *fact*, however, I have not seen an example of *Io* devoid of markings, and the invariably traceable elytral striæ of *Atalanta* furnish a reliable (though not very conspicuous) distinction from *geniculata*.

A fully marked specimen of this insect has 4 ill defined fuscous blotches placed transversely across its prothorax, a small well defined blackish blotch near the base of the 5th interstice of the elytra, a blotch (similar to the subbasal one) at the beginning of the posterior declivity on each of the 3rd, 5th and 7th interstices, and a small blotch about the middle of the suture. Some or all of the above markings are absent in some specimens. Of the male I have not seen an example *without* at least the middle two of the prothoracic markings, and of the female only one example *with* prothoracic markings. Of the elytral markings the subbasal spot is the one most frequently wanting; the sutural blotch is often wanting; the posterior spots are at least faintly indicated in all the examples I have seen, and sometimes they coalesce and even are dilated into a large subcircular blotch common to the two elytra and occupying the greater part of the posterior declivity. In some examples the elytral punctures are more or

less fuscous, and in some the whole surface of the elytra is dark brown with the markings still darker.

It is to be observed that, judged by the very insufficient description, *P. notata*, Oliv., is just possibly a variety of this species, but this is a mere guess, as the description does not indicate that the species belongs to the present subgroup, and the markings as described, though perhaps suggesting this species, are not identical with those of any example I have seen.

N.S. Wales and Victoria.

P. INTERSTITIALIS, Chp.

This species is very close to *P. Atalanta* in nearly all respects apart from its markings. There is, however, a slight but constant difference in the puncturation of the interstices of the elytra, for in the present species the interstices are so minutely punctured (disregarding the large punctures similiar to the seriate ones) as to present the appearance of bearing only one kind of puncture, viz., the larger ones, whereas in *Atalanta* the interstices have a distinct (though quite fine) close puncturation which, especially near the suture, gives a confused appearance even to a casual glance. This difference, however, is less evident in the males than the females. The colouring of the elytra is very different in these two species and, though both are variable, the varieties do not tend to resemblance to the other of the two. Of *Atalanta*, though I have seen and collected many specimens, I have not seen one in which there are not at least distinct traces of dark markings on the posterior declivity of the elytra, or in which there is in the front part of the elytra any marking unless a small well defined blackish spot on the 5th interstice close to its base, while in *interstitialis* the elytra are either devoid of markings altogether, or have a large ill-defined cloudy patch, somewhat darker than the general surface, a little behind the base and extending from near the suture to near the lateral margin. In some examples of both species the punctures on the elytra appear infuscate from some points of view.

N.S. Wales and Victoria.